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| 10/044,333 | 01/11/2002 | Nir Ben-Dvora | 1370.020US1 | 7983 |
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| SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A. P.O. BOX 2938 MINNEAPOLIS, MN 55402 | | | MATTIS, JASON E | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2616 | |

DATE MAILED: 10/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/044,333 | Applicant(s) BEN-DVORA ET AL. | |
| | Examiner Jason E. Mattis | Art Unit 2616 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the amendment filed 8/4/06. Claim 23 has been cancelled. Claims 1-22 are currently pending in the application.

Claim Rejections - 35 USC § 112

2. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

More specifically, claim 22 is a claim directed towards a single concentrator. It is made clear in the specification that the Applicant's invention involves two concentrators that work together to by connecting nodes to form bi-directional dual counter-rotating optical rings. No embodiment of the Applicant's inventions shows nodes being connected to form these rings using only a single concentrator. This claim omits the essential element of the second concentrator. It is recommended that this claim be rewritten to include both concentrators as required by the description of the invention in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 5, 7-9, 13, 17, and 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al. (U.S. Pat. 5663950).

With respect to claim 1, Lee et al. discloses a failure recovery method in a dual optical ring network including an inner ring and an outer ring, a plurality of nodes, a first concentrator and a second concentrator **(See the abstract, column 7 lines 31-61, and Figure 1 of Lee et al. for reference to a failure recovery method in a dual optical ring network including a primary data path 5 and a secondary data path 6, which are an inner ring and an outer ring, a plurality of work stations 24, which are nodes, and reconfiguration units 10 and 20, which are a first concentrator and a second concentrator)**. Lee et al. also discloses that each node comprises at least an interface A and an interface B each comprising an input and output interface **(See column 7 lines 31-61 and Figure 1 of Lee et al. for reference to the workstations 24 being attached with both a ring in and a ring out interface to the reconfiguration units)**. Lee et al. further discloses connecting interface A of every even node and interface B of every odd node to the first concentrator and connecting interface B of every even node and interface A of every odd node to the second

concentrator (**See column 7 line 31 to column 8 line 52 and Figure 1 of Lee et al. for reference to the workstations being connected together to form a dual optical ring network meaning every interface of every workstation 24 is either directly or indirectly connected to both reconfiguration units 10 and 20**). Lee et al. also discloses configuring the first and second concentrators to connect the nodes to form bi-directional dual counter-rotating optical rings (**See column 7 line 31 to column 8 line 52 and Figure 1 of Lee et al. for reference to the reconfiguration units 10 and 20 being configured to connect the workstations 24 to form bi-directional dual counter-rotating rings**). Lee et al. further discloses in the event of a failure of a concentrator, configuring the interfaces to loopback and configuring the surviving concentrator to connect nodes to form a single optical ring network (**See column 8 line 54 to column 10 line 48 and Figures 2A-2D of Lee et al. for reference to performing a loopback function and connecting nodes to form a single optical ring network in the event of a failure of a reconfiguration unit**).

With respect to claim 9, Lee et al. discloses a method of connecting a plurality of nodes to a first and second concentrator to form a dual optical ring network including an inner and outer ring (**See the abstract, column 7 lines 31-61, and Figure 1 of Lee et al. for reference to a method of connecting a plurality of work stations 24, which are nodes, to reconfiguration units 10 and 20, which are a first concentrator and a second concentrator, to form a dual ring network including a primary data path 5 and a secondary data path 6, which are an inner ring and an outer ring**). Lee et al. also discloses that each node including an interface A and an

Art Unit: 2616

interface B (**See column 7 lines 31-61 and Figure 1 of Lee et al. for reference to the workstations 24 being attached with both a ring in and a ring out interface to the reconfiguration units**). Lee et al. further discloses connecting interface A of every even node and interface B of every odd node to the first concentrator and connecting interface B of every even node and interface A of every odd node to the second concentrator (**See column 7 line 31 to column 8 line 52 and Figure 1 of Lee et al. for reference to the workstations being connected together to form a dual optical ring network meaning every interface of every workstation 24 is either directly or indirectly connected to both reconfiguration units 10 and 20**). Lee et al. also discloses configuring the first and second concentrators to connect the nodes to form bi-directional dual counter-rotating optical rings (**See column 7 line 31 to column 8 line 52 and Figure 1 of Lee et al. for reference to the reconfiguration units 10 and 20 being configured to connect the workstations 24 to form bi-directional dual counter-rotating rings**). Lee et al. further discloses connecting a pair of optical fibers between the concentrators if the number of nodes is odd (**See column 7 line 31 to column 8 line 51 and Figure 1 of Lee et al. for reference to connecting cables between the concentrators 10 and 20**). Lee et al. also discloses in the event of a failure of a concentrator, configuring the interfaces to loopback and configuring the surviving concentrator to connect nodes to form a single optical ring network (**See column 8 line 54 to column 10 line 48 and Figures 2A-2D of Lee et al. for reference to performing a loopback function and connecting nodes to form a single optical ring network in the event of a failure of a reconfiguration unit**).

With respect to claim 13, Lee et al. discloses a recover method for use in a dual optical ring network including an inner ring and an outer ring, a plurality of nodes, a first concentrator and a second concentrator (**See the abstract, column 7 lines 31-61, and Figure 1 of Lee et al. for reference to a failure recovery method in a dual optical ring network including a primary data path 5 and a secondary data path 6, which are an inner ring and an outer ring, a plurality of work stations 24, which are nodes, and reconfiguration units 10 and 20, which are a first concentrator and a second concentrator**). Lee et al. also discloses that each node comprises at least an interface A and an interface B each comprising an input and output interface (**See column 7 lines 31-61 and Figure 1 of Lee et al. for reference to the workstations 24 being attached with both a ring in and a ring out interface to the reconfiguration units**). Lee et al. also discloses beginning with a first node configuring the first and second concentrators to connect interface B of a node to interface A of a neighboring node and configuring the concentrators to connect interface B of the last node with interface A of the first node (**See column 7 line 31 to column 8 line 52 and Figure 1 of Lee et al. for reference to the reconfiguration units 10 and 20 connecting workstations 24 such that all of the interfaces of the workstations are connected to the interfaces of neighboring workstations to form two rings**). Lee et al. further discloses in the event of a failure of a concentrator, configuring the interfaces to loopback and configuring the surviving concentrator to connect nodes to form a single optical ring network (**See column 8 line 54 to column 10 line 48 and Figures 2A-2D of Lee et al. for reference to performing a loopback function and**

Art Unit: 2616

connecting nodes to form a single optical ring network in the event of a failure of a reconfiguration unit).

With respect to claim 21, Lee et al. discloses a recover method for use in a dual optical ring network including an inner ring and an outer ring, a plurality of nodes, a first concentrator and a second concentrator (See the abstract, column 7 lines 31-61, and Figure 1 of Lee et al. for reference to a failure recovery method in a dual optical ring network including a primary data path 5 and a secondary data path 6, which are an inner ring and an outer ring, a plurality of work stations 24, which are nodes; and reconfiguration units 10 and 20, which are a first concentrator and a second concentrator). Lee et al. also discloses that each node comprises at least an interface A and an interface B each comprising an input and output interface (See column 7 lines 31-61 and Figure 1 of Lee et al. for reference to the workstations 24 being attached with both a ring in and a ring out interface to the reconfiguration units). Lee et al. also discloses beginning with a first node configuring the first and second concentrators to connect interface B of a node to interface A of a neighboring node and configuring the concentrators to connect interface B of the last node with interface A of the first node (See column 7 line 31 to column 8 line 52 and Figure 1 of Lee et al. for reference to the reconfiguration units 10 and 20 connecting workstations 24 such that all of the interfaces of the workstations are connected to the interfaces of neighboring workstations to form two rings). Lee et al. further discloses connecting a pair of optical fibers between the concentrators in lieu of the last node if the number of nodes is odd (See column 7 line 31 to column 8

line 51 and Figure 1 of Lee et al. for reference to connecting cables between the concentrators 10 and 20). Lee et al. also discloses in the event of a failure of a concentrator, configuring the interfaces to loopback and configuring the surviving concentrator to connect nodes to form a single optical ring network **(See column 8 line 54 to column 10 line 48 and Figures 2A-2D of Lee et al. for reference to performing a loopback function and connecting nodes to form a single optical ring network in the event of a failure of a reconfiguration unit).**

With respect to claims 5 and 17, Lee et al. discloses that the nodes are adapted to detect a failure of either the first or second concentrator (See column 8 line 54 to column 10 line 48 and Figures 2A-2D of Lee et al. for reference to the workstations detecting a failure of either reconfiguration unit).

With respect to claims 7 and 19, Lee et al. disclose connecting an equal number of A and B interfaces to the first and second concentrator when the number of nodes is even (See column 7 line 31 to column 8 line 52 and Figure 1 of Lee et al. for reference to the workstations being connected together to form a dual optical ring network meaning every interface of every workstation 24 is either directly or indirectly connected to both reconfiguration units 10 and 20, such that an equal number of interfaces are connected to both reconfiguration units 10 and 20).

With respect to claims 8 and 20, Lee et al. discloses connecting a pair of optical fibers between the concentrators to close the rings if the number of nodes is odd (See column 7 line 31 to column 8 line 51 and Figure 1 of Lee et al. for reference to connecting cables between the concentrators 10 and 20).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-4, 6, 10-12, 14-16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al. in view of the "Enhanced Intelligent Protection Switching (E-IPS)" paper (as disclosed in the Applicant's IDS dated 1/2002, hereafter referred to as *E-IPS*).

With respect to claims 2-4, 6, 10-12, 14-16, and 18, Lee et al. does not disclose that the nodes are routers and that the routers and concentrators are adapted to run Spatial Reuse Protocol (SRP) and Intelligent Protection Switching (IPS) protocol sending packets advertising failures.

With respect to claims 10-12, *E-IPS*, in the field of communications, discloses a ring network with nodes that are routers, as well as, routers and concentrators adapted to run Spatial Reuse Protocol (SRP) and Intelligent Protection Switching (IPS) protocol (See pages 1-6 of *E-IPS* for reference to routers and concentrators used to connect dual optical ring networks with the routers and concentrators adapted to run Spatial Reuse Protocol (SRP) and Intelligent Protection Switching (IPS) protocol). A ring network with nodes that are routers, as well as, routers and

concentrators adapted to run Spatial Reuse Protocol (SRP) and Intelligent Protection Switching (IPS) protocol has the advantage of providing a ring network with an method through which failures of nodes and concentrators may be detected and reported to other nodes and concentrators.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of *E-IPS*, to combine a ring network with nodes that are routers, as well as, routers and concentrators adapted to run Spatial Reuse Protocol (SRP) and Intelligent Protection Switching (IPS) protocol, as suggested by *E-IPS*, with the system and method of Lee et al., with the motivation being to provide the ring network with an method through which failures of nodes and concentrators may be detected and reported to other nodes and concentrators.

Allowable Subject Matter

7. Claim 22 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Response to Arguments

8. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

It is recommended that the independent claims be amended to clarify that each of the nodes has a "direct" connection to both the first and second concentrators, as none of the prior art of record shows all nodes having direct connections to two concentrators. The independent claims as currently worded do not limit the connections of nodes to the concentrators to be direct connections.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E. Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jem

A handwritten signature in black ink, appearing to read 'Huy D. Vu', with a long horizontal flourish extending to the right.

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600